

WHAT IS CLAIMED IS:

1. A reflective type color liquid crystal device, comprising,

5 a pair of substrates having electrodes on the
opposing inner surfaces and forming a matrix-patterned dot
group,

liquid crystal sandwiched between said substrates,
at least two colors of color filters,
at least one polarizing plate, and
a reflector.

2. The reflective type color liquid crystal device as defined in claim 1, wherein,
of said pair of substrates, the thickness of the substrate positioned on the side of the reflective plate is 200 μ m or more.

3. The reflective type color liquid crystal device as defined in claim 2, wherein,
of said color filters, at least one color of color filters has a transmissivity of 50% or more for the light of all the wavelengths in the range of 450nm to 660nm.

4. The reflective type color liquid crystal device as defined in claim 3, wherein,
said color filters consist of three colors being a red system, a green system, and a blue system, and either of said red-system or said blue-system color filters is orange or cyan.

5. The reflective type color liquid crystal device as defined in claim 2 through claim 4, wherein, said color filters consist of three colors being a red system, a green system, and a blue system, and the lowest transmissivity of the red-system color filters for the light of the wavelengths in the range of 450nm to 660nm is less than the lowest transmissivity of the blue-system and green-system color filters for the light of the wavelengths in the range of 450nm to 660nm.

6. The reflective type color liquid crystal device as defined in claim 1 through claim 3, wherein,

said color filters are provided only on a part of the light-controllable areas in each dot.

7. The reflective type color liquid crystal device as defined in claim 6, wherein,

5 on the areas being said light-polarizable areas not having color filters provided and the areas not light-polarizable are formed transparent layers at substantially the same thickness as said color filters.

8. The reflective type color liquid crystal device as defined in claim 1 or claim 2, wherein,

10 said color filters are provided only on 3/4 of the total number of dots.

9. The reflective type color liquid crystal device as defined in claim 2, wherein,

15 said color filters are arranged such that the colors of adjacent dots are different.

10. The reflective type color liquid crystal device as defined in claim 1, wherein,

20 said color filters are provided on the entirety of the effective display area.

11. The reflective type color liquid crystal device as defined in claim 1, claim 2 or claim 10, wherein,

25 black masks are not provided on the outside of said dots, but instead are provided color filters having the same or less absorption as the areas inside the dots.

12. The reflective type color liquid crystal device as defined in claim 1, claim 2 or claim 6, wherein,

30 of said pair of substrates, color filters are provided on the outer surface of the substrate positioned on the side of the reflective plate.

13. The reflective type color liquid crystal device as defined in claim 1 or claim 2, wherein,

35 of said pair of substrates, nonlinear resistance elements are provided corresponding to each dot on the inner surface of the substrate positioned on the side of the reflective plate.

14. The reflective type color liquid crystal device as defined in claim 1, claim 2 or claim 11, wherein,

5 of said pair of substrates, nonlinear resistance elements are provided corresponding to each dot on the inner surface of one substrate, and these are wired in a direction parallel to the short edges of the dots.

15. The reflective type color liquid crystal device as defined in claim 1 or claim 2, wherein,
10 the drive surface area ratio is 60% to 85%.

16. The reflective type color liquid crystal device as defined in claim 1 or claim 2, wherein,
15 said reflective plate has scattering properties such that 80% or more of the light is reflected inside a 30° cone centered on its direction of mirror reflection when a beam of light is introduced therein.

17. The reflective type color liquid crystal device as defined in claim 1 or claim 2, wherein,
20 said reflective plate is a transflector, and backlights are provided behind it.

18. The reflective type color liquid crystal device as defined in claim 1 or claim 2, wherein,
25 said liquid crystals are nematic liquid crystals twisted 90°, and two polarizing plates are placed such that their transmissive axes are perpendicular to the rubbing directions of the respectively adjacent substrates.

19. The reflective type color liquid crystal device as defined in claim 18, wherein,
30 the product $\Delta n \times d$ of the birefringence Δn of the liquid crystals and the thickness d of the liquid crystal layer is 0.34μ to $0.52\mu\text{m}$.

20. The reflective type color liquid crystal device as defined in claim 1 or claim 2, wherein,
35 said liquid crystals are nematic liquid crystals twisted 90°, and two polarizing plates and at least one retardation variation film are placed.

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21. The reflective type color liquid crystal device as defined in claim 1, wherein,

said reflective plate is provided between a pair of substrates, and only one polarizing plate is placed.

22. The reflective type color liquid crystal device as defined in claim 21, wherein,

said reflective plate is a mirror reflective plate, and a scattering plate is provided on the outer surface of the substrate positioned on the side of the incident light.

23. The reflective type color liquid crystal device as defined in claim 21 or claim 22, wherein,

the liquid crystals on the metallic wiring also are oriented in the same manner as the liquid crystals of the pixel area.

24. The reflective type color liquid crystal device as defined in any of claim 1, claim 11, claim 14 or claim 18 through claim 23, wherein,

the display is a normally white type.

25. The reflective type color liquid crystal device as defined in claim 1, wherein,

one pixel is composed by one dot.

26. An electronic apparatus comprising as a display a reflective type color liquid crystal device as defined in any of claim 1 through claim 25.

27. The electronic apparatus as defined in claim 26, wherein,

the display is installed so as to be moveable in relation to the body such that the ambient light can be reflected efficiently to the observer.

28. The electronic apparatus as defined in claim 3, wherein

the color filters are composed of cyan and red.

29. The electronic apparatus as defined in claim 3, wherein the color filters are composed of green, red, and white color elements.

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